



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,930	03/13/2002	Michael R. Klardie	14484	2702

25763 7590 08/03/2005

DORSEY & WHITNEY LLP  
INTELLECTUAL PROPERTY DEPARTMENT  
50 SOUTH SIXTH STREET  
MINNEAPOLIS, MN 55402-1498

EXAMINER

BUMGARNER, MELBA N

ART UNIT PAPER NUMBER

3732

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/099,930

Applicant(s)

KLARDIE ET AL.

Examiner

Melba Bumgarner

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26,28-30,35,37-72 and 77-88 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43,52,64,66 and 67 is/are allowed.
- 6) ☒ Claim(s) 1-23,25,28-30,44,45,47-51,53-58,62,63,65,68-72,77-79 and 85-88 is/are rejected.
- 7) ☒ Claim(s) 24,26,35,37-42,46,59-61 and 80-84 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-26, 28-30, 35, 37-42, 44-46, 49, 59, 65, 68, 80, 87, and 88 are objected to because of the following informalities: preamble of claims dependent upon claims 1, 24, and 35 needs correction, claims 1, 3, 24, 35, 44-46, 49, 59, 65, 68, 80, 87, and 88 contain recitations of insufficient antecedent basis and/or errors in the claimed language that need correction as in earlier office action. Applicant is asked to review claims carefully. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 77-79 and 85 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are dependent on a canceled claim. The claims have not been rejected over any references, since it is not known what features of the impression cap are included.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

Art Unit: 3732

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8, 11, 13, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hurson (2002/0106610). Hurson discloses a combination comprising a dental implant having a longitudinal axis and a circumferential collar with an outermost diameter, and an impression cap 120 comprising an elongate body 122 having a longitudinal axis 164, a first end 126 and a second end 124, at least the second end being provided with an opening, the opening extending longitudinally into the body from the second end forming an inner cavity 130, a press fit mechanism comprising a press fit surface formed in the second end of the body, figure 7D, the press fit surface being an internal surface with internal sidewall generally parallel to the axis of the implant and in engagement with the collar at its outermost diameter when the implant and cap are connected. As to claim 2, an inner circumferential angled surface is located at the second end of the body and having a size and shape complementary to an outer upper shoulder of the circumferential collar of the implant as seen in figure 8A. As to claim 3, the press fit mechanism comprises a circumferential flange extending downward from the body, the flange having an inner squeezing surface (figure 8B). As to claim 4, the press fit mechanism further comprises a curved relief 136 between the inner circumferential angled surface and the inner squeezing surface, the relief forming a gap between the impression cap and the implant when the impression cap is positioned on the implant. As to claims 5 and 6, the flange further comprises a tapered surface, the tapered surface extending downward from the squeezing surface and away from the implant. As to claims 7 and 8, the flange having a bottom end, the flange further comprising an outer angled surface, the outer angled surface extending downward and inward to

Art Unit: 3732

the bottom end of the flange. As to claim 11, the body is generally conical at 124. As to claim 13, the impression cap has a vent positioned at the first end of the cap. As to claims 16 and 17, the impression cap being elastic [0088] line 4. Patentable weight is not given to the intended use of the impression cap. As to claim 19, the body comprises a side wall having an outer surface and at least one circumferential rib protruding outward from the outer surface of the side wall 166.

6. Claims 1-3, 5, 7, 9, 10, 13, 14, 16, 17, 19, 44, 47, 48, 50, 51, 53, 54, and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Halldin et al. (2003/0082499). Halldin et al. disclose a combination comprising a dental implant having a longitudinal axis and a circumferential collar with an outermost diameter, and an impression cap 201 comprising an elongate body 203 having a longitudinal axis, a side wall, a first end and a second end, at least the second end being provided with an opening, the opening extending longitudinally into the body from the second end forming an inner cavity, a press fit mechanism 209 comprising a press fit surface formed in the second end of the body, figure 7d, the press fit surface being an internal surface with internal sidewall generally parallel to the axis of the implant and in engagement with the collar at its outermost diameter when the implant and cap are connected. As to claim 2, an inner circumferential angled surface is located at the second end of the body and having a size and shape complementary to an outer upper shoulder of the circumferential collar of the dental implant. As to claim 3, the press fit mechanism comprises a circumferential flange extending downward from the body, the flange having an inner squeezing surface. As to claim 5, the flange further comprises a tapered surface, the tapered surface extending downward from the squeezing surface and away from the implant. As to claim 7, the flange having a bottom end, the

Art Unit: 3732

flange further comprising an outer angled surface, the outer angled surface extending downward and inward to the bottom end of the flange. As to claim 9, the body having an inner surface wall, the inner circumferential angled surface angling outward from the inner surface wall, wherein a channel is formed in the inner circumferential angled surface (figure 7b), such that a vent from the cavity to the outside is formed when the impression cap is positioned on the implant. As to claim 10, there are at least two channels formed. As to claims 13 and 14, the impression cap has a vent 217 positioned at the first end of the cap. Patentable weight is not given to the intended use of the vent. As to claims 16 and 17, the implant includes an implant table, the impression cap being elastic [0145] line 3. Patentable weight is not given to the intended use of the impression cap. As to claim 19, the body comprises a side wall having an outer surface and at least one circumferential rib protruding outward from the outer surface of the side wall 242. As to claim 44, Halldin et al. show the impression cap comprising a first groove formed in the inner surface adjacent the second end, which has the capability to vent air (figure 7b). As to claim 47, the impression cap further comprises a second groove formed in the inner surface adjacent the second end having the capability to vent air. As to claim 48, the grooves are positioned in the inner surface in opposing fashion. As to claim 50, an abutment flat is formed in the inner surface. As to claim 68, the cylinder-shaped body has a generally conical inner cavity 243. As to claim 73, Halldin et al. show an external geometry formed on the outer surface. As to claim 74, the impression cap has a generally conical inner cavity (figure 8b).

7. Claims 1-3, 5, 7, 16, 17, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Grande et al. (6,068,478). Grande et al. disclose a combination comprising a dental implant 1 having a longitudinal axis and a circumferential collar with an outermost

Art Unit: 3732

diameter, and an impression cap 4 comprising an elongate body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening, the opening extending longitudinally into the body from the second end forming a inner cavity, a press fit mechanism 42 comprising a press fit surface formed in the second end of the body, figure 1E, the press fit surface being an internal surface with internal sidewall generally parallel to the axis of the implant and in engagement with the collar at its outermost diameter when the implant and cap are connected. As to claim 2, an inner circumferential angled surface 21 is located at the second end of the body and having a size and shape complementary to an outer upper shoulder of the circumferential collar 11 of the dental implant. As to claim 3, the press fit mechanism comprises a circumferential flange extending downward from the body, the flange having an inner squeezing surface. As to claim 5, the flange further comprises a tapered surface, the tapered surface extending downward from the squeezing surface and away from the implant. As to claim 7, the flange having a bottom end, the flange further comprising an outer angled surface, the outer angled surface extending downward and inward to the bottom end of the flange. As to claims 16 and 17, the implant includes an implant table, the impression cap being elastic (column 4 line 40). Patentable weight is not given to the intended use of the impression cap. As to claim 19, the body comprises a side wall having an outer surface and at least one circumferential rib 43 protruding outward from the outer surface of the side wall. As to claim 20, the body comprises two circumferential ribs protruding outward from the outer surface of the side wall, wherein the two circumferential ribs are spaced apart along the longitudinal axis of the cap. As to claim 21, at least one of the circumferential ribs has a flat surface. Patentable weight is not given to the intended use of the feature.

Art Unit: 3732

8. Claims 62, 63, 65, and 69 are rejected under 35 U.S.C. 102(e) as being anticipated by Hurson (6,672,871). Hurson discloses an impression cap 200 comprising an elongate body having a longitudinal axis, a side wall, a first end and a second end, at least the second end being provided with an opening to engage an abutment piece, the opening extending longitudinally into the body from the second end forming an inner cavity, the body further having an inner surface 104 and an outer surface, the impression cap further comprising an abutment flat formed in the inner surface and comprising a surface lying in a plane substantially parallel to the longitudinal axis and a bulge 110 formed on the abutment flat which extends inward, the bulge is adjacent to the second end of the flat, as seen in figure 7A. As to claim 63, the cap further comprises an exterior geometry. Patentable weight is not given to the intended use of the geometry. As to claim 65, the first end of the cap is substantially closed forming a top. As to claim 69, the impression cap further comprises a press fit mechanism formed in the second end of the body 112.

9. Claim 86 is rejected as understood, under 35 U.S.C. 102(e) as being anticipated by Porter et al. (2001/0034008). Porter et al. disclose an impression cap 90 comprising an elongate body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening 96, the opening extending longitudinally into the body from the second end forming a “substantially closed” inner cavity, the body having an inner surface and an outer surface, wherein the first end is substantially closed forming a top 94, the tip comprising a vent, the vent comprising a vent opening 92 that is capable of being closed. The vent opening is capable of releasing air from the inner cavity when the cap is placed onto the abutment piece and closed when an impression is taken.



10. Claims 87 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Gentile et al. (6,161,729). Gentile et al. disclose a cap 38 comprising a cylinder shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening, the opening extending longitudinally into the body from the second end forming an inner cavity, the body having an inner surface and an outer surface, wherein the first end is substantially closed forming a top 44, the top comprising a vent, the vent comprising a slit and a cover 42 which is attached to the top of the first end. Patentable weight is not given to the intended use of the cap. As to claim 88, there are two slits formed in the top.

*Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 11, 12, 15, 23, 25, 45, 49, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halldin et al. Halldin et al. disclose an impression cap that shows the limitations as described above; however, they do not show the body being generally conical. It would be an obvious matter of choice to one of ordinary skill in the art as to the body being generally conical. The specific shaped is not disclosed as critical to the claimed invention, nor is a "conical" shape shown. As to claim 12, the inner cavity of the impression cap has an inner geometry which comprises an internal abutment flat 243 and has a size and shape complementary to an abutment piece which may be secured in the implant (figure 8b). As to claim 15, the impression cap has an external geometry 241, which references an external

abutment feature. It would be an obvious matter of choice to one of ordinary skill in the art as to the intended use of the feature. As to claim 23, Halldin et al. show a first vertical rib protruding outward from the outer surface of the side wall; however, they do not show the groove extending from the first end to the second end. It would have been an obvious matter of choice to one having ordinary skill in the art as to the length of the rib on the outer wall. The extension of the rib is not disclosed as critical to the claimed invention. As to claim 25, Halldin et al. show a second vertical rib, wherein the vertical ribs are spaced 180 degrees apart from one another around the periphery of the cap. As to claim 45, the first end of the cap forms a top, it would be an obvious matter of choice to one of ordinary skill the art as to size of the top being substantially closed. As to claim 58, Halldin et al. show a second vertical rib, the ribs spaced apart from one another around the periphery of the cap.

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Halldin et al. in view of Porter et al. Halldin et al. disclose an impression cap that shows the limitations as described above; however, they do not show the impression cap being color coded. Porter et al. teach an impression cap color coded [0043] line 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the impression cap of Halldin et al. to be color coded. One would be motivated in order to use the color to indicate its size in view of Porter et al. Porter et al. also teach the corresponding components coded in the same color.

14. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grande et al. Grande et al. disclose an impression cap that shows the limitations as described above; however, they do not show the circumferential ribs comprising at least one concave surface around their

Art Unit: 3732

periphery. Grande et al. show indented portions of the circumferential ribs. It would have been an obvious matter of choice to one of ordinary skill in the art as to the specific geometry (concave) of the indented portions. The specific shape is not disclosed as critical to the claimed invention.

15. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halldin et al. in view of Kumar (6,561,805) and further in view of Larson et al. (5,540,876). Halldin et al. disclose an impression cap that shows the limitations as described above; however, they do not show the cap gamma sterilized. Kumar discloses an impression cap (coping) sterilized (column 1 line 47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to sterilize the cap as in Kumar. One would be motivated in order to have a sterile component before insertion into the patient's mouth and reduce chances for infection or complications in view of Kumar. The modified impression cap of Halldin et al. and Kumar further does not show the cap gamma sterilized. Larson et al. teach gamma sterilization of materials including plastics and items of medical applications (column 2 lines 40, 65). It would have been obvious to one having ordinary skill in the art to further modify the impression cap to be gamma sterilized. One would be motivated in order to be able to sterilize in bulk, to sterilize pre-packaged materials for easier handling, and to use a less expensive radiation process than electron radiation in view of Larson et al. As to claim 29, the impression cap of Halldin et al. is plastic [0145] line 2. As to claim 30, Halldin et al. shows the plastic material selected so as to provide sufficient elasticity to allow formation of the press fit mechanism but not being easily deformable to ensure proper use. It would have been an obvious matter of choice to one of

Art Unit: 3732

ordinary skill in the art as to the specific type of plastic, since it is not disclosed as critical to the claimed invention.

16. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halldin et al. in view of Grande et al. Halldin et al. disclose an impression cap that shows the limitations as described above; however, they do not show the body comprising two circumferential ribs. Grande et al. teach the body comprising two circumferential ribs protruding outward from the outer surface of the side wall, wherein the two circumferential ribs are spaced apart along the longitudinal axis of the body. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the impression cap of Halldin et al. to have a second circumferential rib. One would be motivated in order to aid in anchoring the cap in the impression compound and prevent the displacement or twisting of the cap in view of Grande. As to claim 56, Grande et al. show indented portions of the circumferential ribs. It would have been an obvious matter of choice to one of ordinary skill in the art as to the specific geometry (concave) of the indented portions.

17. Claims 70-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurson (6,672,871) in view of Halldin et al. Hurson discloses an impression cap that shows the limitations as described above; however, Hurson does not show a first vertical rib protruding outward from the outer surface of the side wall. Halldin et al. teach a vertical rib protruding outward from the outer surface of the side wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cap of Hurson to include a vertical rib. One would be motivated, as it appears from figures 7a and 7b, in order to have it function as structural support to the circumferential rib in the prolongation region of Halldin et

Art Unit: 3732

al. and as such structural enhancements are known in the art. It would be an obvious matter of choice to one of ordinary skill in the art as to the length of the rib on the outer wall. As to claim 71, Halldin et al. show a second vertical rib, the ribs spaced apart from one another around the periphery of the cap. As to claim 72, Halldin et al. show the second vertical rib thickens at its bottom.

*Allowable Subject Matter*

18. Claims 43, 52, 64, 66, and 67 are allowed.
19. Claims 24, 26, 35, 37-42, 46, 59-61, and 80-84 have objections and would be allowable if corrected.

*Response to Arguments*

20. Applicant's arguments filed May 18, 2005 have been fully considered but they are not persuasive. The prior art show the structural imitations of the rejected claims as written, not as argued. The term substantially closed is broad in that it may be interpreted to have a cavity that is not closed and the second end has an opening. The internal surface is in engagement with the outermost diameter. It is believed that the non-beveled surface lies in a plane substantially parallel to the longitudinal axis. The features of Porter meet the claimed structural limitations and it is capable of performing the functional limitations. In response to the applicant's argument that the purpose(s) of the features of the prior art is different from the claimed invention, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). In response to applicant's argument that Gentile is not directed to a dental system, a recitation of the intended

Art Unit: 3732

use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

### *Conclusion*

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melba Bumgarner whose telephone number is 571-272-4709. The examiner can normally be reached on Mon-Fri.

Art Unit: 3732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached at 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melba Bumgarner  
Primary Examiner